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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,418

12/17/2004

John Edward Perrigo Beale

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6773

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EXAMINER

LEE, HWA S

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,418	<b>Applicant(s)</b> BEALE ET AL.	
	<b>Examiner</b> Hwa S. Lee (Andrew)	<b>Art Unit</b> 2886	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The newly amended title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 recite the limitation "one beam splitter" and "the other beam splitter(s)". There is insufficient antecedent basis for this limitation in the claims. It is unclear if the recitation is referring to the previously recited polarizing beam splitters or there are conventional beam splitters. The third (iii) clause of claim 1 recites "at least one additional polarizing beam splitter" so there could be more than just two beamsplitters, therefore "one beam splitter" and "the other beamsplitter" lack antecedent basis. Furthermore, it is unclear if the "one beam splitter" and "the or each additional beam splitter" is referring to the polarizing beam splitters or if there are beam splitters beside the polarizing beam splitters.

**Similar antecedent basis are lacking in all the claims. Applicant is urged to thoroughly review each claim for proper antecedent basis.**

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4. Claims 8 and 9 are indefinite because it is unclear if there are polarizing beam splitters and conventional beam splitters, or if the recitation of “the beam splitters” is referring to the polarising beam splitter of elements (ii) and (iii). As such, it is unclear if there is:

- a. a first polarizing beam splitter and exactly two additional beam splitters or
- b. a first polarizing beam splitter, at least one additional polarising beam splitter, and exactly two additional beam splitters. In addition, “the beam splitters” of the second line lack antecedent basis.

The recitation “the other two prisms” lack antecedent basis since there are several Wollaston prisms.

**Similar antecedent basis are lacking in all the claims. Applicant is urged to thoroughly review each claim for proper antecedent basis.**

5. In claim 2, the comma after the word “one” renders the claim indefinite as it appears some words may be omitted.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-10, and 12, as understood by the Examiner, are rejected under 35 U.S.C. 102(b) as being anticipated by DE 4016731 (GB 2245381).

DE 4016731 shows a Fourier spectrometer comprising:

(i) an input polarizer (3) for resolving light incident thereon into a single linear polarisation state,

(ii) a first polarising beam splitter (5-7) arranged to receive light passing through the input polariser, and arranged to resolve said light into equal magnitude orthogonally polarised rays, said rays being mutually spaced and having a path difference therebetween,

(iii) at least one additional polarising beam splitter (5-7) arranged to receive light passing through the first polarising beam splitter,

(iv) an output polariser (10) orientated such that its transmission axis is parallel to or perpendicular to the transmission axis of the input polariser for resolving the orthogonally polarised light rays having passed through the or each additional polarising beam splitter into the same or perpendicular polarisation state as light resolved by the first polariser,

(v) focussing means (2, 11), the first polarising beam splitter, the or each additional beam splitter and the focussing means being mutually spaced such that said mutually spaced rays are brought to coincidence whereby interference fringes are produced, and,

(vi) a light sensitive detector (14) arranged to detect said interference fringes, wherein one beam splitter (7) is mounted for movement perpendicular to said axis, the other beam splitter(s) (4,6) being rigidly mounted against movement.

With respect to claims 2 and 3, the beamsplitters are Wollaston prisms.

With regards to claims 4, 5, and 8, please see figure 3 and lens 11.

With respect to claim 6, the arrangement of Figures 2-5 would meet the limitation since the same Wollaston prism is used where the light doubles back through the Wollaston prism.

With respect to claim 7, the Wollaston prism is in between lens 2 and the detector.

With regards to claim 10, see “computer” in the translated text.

With respect to claim 12, the beam splitter is moved (see arrows).

### ***Allowable Subject Matter***

Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

With respect to the rejection under section 112, the claims are still replete with vague and indefinite limitations. Applicant is urged to thoroughly review the claims.

With respect to Applicant's argument with regards to DE 4016731, the rejection has been clarified to correctly show the first polarizing beamsplitter to be elements 5-7, rather than 4.

With respect to Applicant's argument with regards to Padgett, the arguments are persuasive and are withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwa S. Lee (Andrew) whose telephone number is 571-272-2419. The examiner can normally be reached on Mon, Tue, Thurs, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on 571-272-2800. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hwa S. Lee (Andrew)/

Primary Examiner, Art Unit 2886